

Claims:

1. A flashlight comprising:

a lamp;

a power storage element;

a first switch;

a second switch;

an electronic controller;

the controller having a first switch input connected to the first switch;

the controller having a second switch input connected to the second switch;

the controller being operable in response to actuation of the first switch to deliver power to the lamp; and

the controller being operable in response to a signal received from the second switch to establish a degree of the delivered power, such that the second switch determines a brightness of the lamp.

2. The flashlight of claim 1 wherein the second switch is operably connected directly to the switch input, such that it does not intervene between the power storage element and the lamp.

3. The flashlight of claim 1 wherein the flashlight is an elongated body with the first switch at a first end, and the lamp at an opposed second end, the second switch being closer to the second end than the first end.

4. The flashlight of claim 1 wherein the flashlight is an elongated body defining an axis, and the second switch is a ring rotatable about the axis.

5. The flashlight of claim 1 wherein the flashlight includes a leak-resistant housing defining a chamber, and wherein the second switch is positioned outside the chamber.

6. The flashlight of claim 5 second switch includes a sensor component within the housing, the sensor component operable to detect the position of the second switch.
7. The flashlight of claim 6 wherein the sensor component is a magnetic field sensor.
8. The flashlight of claim 6 wherein the sensor component is electrically isolated from the second switch.
9. The flashlight of claim 1 wherein the flashlight wherein the second switch includes a magnet.
10. The flashlight of claim 1 including a plurality of different color lamp components, and wherein the controller is operable in response to a signal received from the second switch to provide a selected power to at least one of the lamp components to provide a selected output color.
11. The flashlight of claim 1 wherein the second switch is movable through a range of angular positions, and the controller is operable to establish the degree of power level based on the absolute position of the switch.
12. The flashlight of claim 1 wherein the second switch is movable through a range of angular positions, and the controller is operable to establish the degree of power level based on a duration of a rotational force applied to the second switch.
13. The flashlight of claim 1 wherein the flashlight has an elongated housing having the lamp at a first end and the first switch at an opposed second end, and including at least two independent electrical paths between the first and second ends.
14. The flashlight of claim 1 wherein the controller is operable to provide sustained illumination of the lamp at a limited first brightness level in response to application of a limited first degree of force, and to maintain illumination of the lamp in response to cessation of the force.

15. The flashlight of claim 14 wherein the controller is operable while providing sustained illumination after cessation of the force to cease illumination in response to a second application of force.
16. A method of operating a flashlight having a light source with variable light output up to a maximum output level, a first switch operable through a range of conditions ranging between a released position and a fully actuated condition, and a second switch, the method comprising:
 - operating the second switch to establish a dimmed level at an output less than the maximum level;
 - in response to actuating the first switch to an intermediate condition between the released position and the fully actuated position, illuminating light source at the dimmed level; and
 - in response to actuating the switch to the fully actuated condition, illuminating the light source at the maximum level.
17. The method of claim 16 wherein operating the second switch to establish a dimmed level at an output less than the maximum level includes rotating a ring encircling a housing portion of the flashlight to a selected position, and wherein the dimmed level is based on the selected position.
18. The method of claim 16 wherein operating the second switch to establish a dimmed level at an output less than the maximum level includes applying rotational force to the second switch for a selected duration, and changing the dimmed level based on the duration.
19. The method of claim 16 wherein where the flashlight has a leak-resistant housing, and wherein operating the second switch to establish a dimmed includes moving a switch element outside of the housing while maintaining the leak-resistant seal.
20. A method of operating a flashlight having a light source with variable color output, a first switch operable through a range of conditions ranging between a released position and a fully actuated condition, and a second switch, the method comprising:

operating the second switch to establish a selected color output; and
in response to actuating the first switch to an intermediate condition between the released position and the fully actuated position, illuminating light source at the selected color.